

ABSTRACT OF THE DISCLOSURE

1 An acceleration sensor for detecting an acceleration caused by an object oscillated
2 in an oscillation direction, comprises a sensor casing having a center axis that is
3 positioned in coaxial alignment with the oscillation direction to receive the acceleration,
4 an oscillation plate and a piezoelectric element. The sensor casing has first and second
5 circular inner surfaces opposing to and spaced apart along the center axis from each other
6 at a first space distance, and a third cylindrical inner surface connected at one end with
7 the first inner surface and at the other end with the second inner surface to define a
8 cylindrical closed space. The oscillation plate is accommodated in the closed space of
9 the sensor casing and has a central portion securely supported by the sensor casing and
10 a peripheral portion integrally formed with the central portion and extending radially
11 outwardly of the central portion . The piezoelectric element is provided on the oscillation
12 plate to generate a voltage indicative of the acceleration. The first space distance is less
13 than or equal to the diameter of the third inner surface of the sensor casing multiplied by
14 0.1.

ABSTRACT OF THE DISCLOSURE

An acceleration sensor for detecting an acceleration caused by an object oscillated in an oscillation direction, comprises a sensor casing having a center axis and to be positioned in coaxial alignment with the oscillation direction to receive the acceleration, the sensor casing having first and second circular inner surfaces opposing to and spaced apart along the center axis from each other at a first space distance, and a third cylindrical inner surface connected at one end with the first inner surface and at the other end with the second inner surface to define a cylindrical closed space, an oscillation plate accommodated in the closed space of the sensor casing and having a central portion securely supported by the sensor casing and a peripheral portion integrally formed with the central portion and extending radially outwardly of the central portion, and a piezoelectric element provided on the oscillation plate to generate a voltage indicative of the acceleration, in which the first space distance is less than or equal to the diameter of the third inner surface of the sensor casing multiplied by 0.1.

RECORDED IN U.S. PATENT AND TRADEMARK OFFICE